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TRANSMITTAL OF APPEAL BRIEF (Small Entity)

Docket No.
903-101

Re Application Of: Erwin Coenraad Murk

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/802,581	March 17, 2004	Merrick L. Dixon	23869	1774	3875

Invention: FIBRE-REINFORCED BUILDING ARTICLE AND MANUFACTURING METHOD THEREOF

COMMISSIONER FOR PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed on:

☐ ☒ Applicant claims small entity status. See 37 CFR 1.27

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Dated:

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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE
BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicants: Murk, Erwin Coenraad Examiner: Merrick L. Dixon
Application No.: 10/802,581 Group Art Unit: 1774
Filed: March 17, 2004 Docket: 903-101
For: FIBRE-REINFORCED Dated: September 11, 2006
BUILDING ARTICLE AND
MANUFACTURING METHOD
THEREOF

Confirmation No.: 3875

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Alexandria, VA 22313-1450

APPEAL BRIEF PURSUANT TO 37 C.F.R. §41.37

Sir:

The Appellant has appealed the Examiner's Final Rejection of Claims 1-16 dated March 27, 2006. This Appeal Brief is submitted in accordance with the provisions of 37 C.F.R. §41.37. As required by 37 C.F.R. §41.37(a)(2), please charge Deposit Account No. 08-2461 the requisite fee of \$250.00 for submitting this Appeal Brief. If additional fees are required, please charge Deposit Account No. 08-2461. The Appellant has filed a timely Notice of Appeal by certification on July 11, 2006, and the Notice of Appeal received an Office date of July 13, 2006. This Appeal Brief is being filed in support of the Notice of Appeal.

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I. Real Party In Interest

The real party in interest is Murk en Murk Holding B.V., the assignee of the entire right, title and interest in and to Application No. 10/802,581.

II. Related Appeals and Interferences

No related appeals or interferences are known to the Appellant or the Appellant's legal representative which will directly affect or be directly affected by or have bearing on the Board's decision in this appeal.

III. Status of Claims

Claims 1-16 are presently pending in the application and stand as being finally rejected. These claims are being appealed.

IV. Status of Amendments

In response to the final rejection mailed March 27, 2006, a Notice of Appeal was filed on July 11, 2006 without further amendments or arguments. In addition, no further amendments have been presented after the filing of this appeal.

V. Summary of Claimed Subject Matter

The present invention, as set forth in independent claim 1, is directed a fibre-reinforced building article having fire protection properties. The building article may include building bricks, building blocks and/or panels. (Specification at paragraph [0016], lines 3-4). The building article may be flat or curved. (Specification at paragraph [0016], line 2). The building

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article is formed by casting materials into a mould. (Specification at paragraph [0008], lines 1-2; paragraph [0009], lines 2-4). The building article materials include a matrix of a binding material and at least one fiber layer of alkali-resistant glass fibers. The matrix of a binding material includes an aluminous cement, a carboxylic ether polymer based plasticizer, a fugitive material, filler, and alkali-resistant glass fibers.

The alkali-resistant glass fibres in the matrix material improve the strength and the rigidity of the building article and are also specifically selected to be compatible with the novel matrix material. (Specification at paragraph [0009], lines 1-4 on page 3). The carboxylic ether polymer based plasticizer improves the flow properties of the matrix and extends the cure time of the matrix material to allow the manufacturing of the building articles by casting. (Specification at paragraph [0009], lines 1-9 on page 2).

The present invention, as set forth in independent claim 10, is directed a method for the manufacturing a fibre-reinforced building article having fire protection properties. The method includes the casting of an aqueous mixture of binding material into a mould 12, the positioning of additional alkali-resistant glass fibers in at least one fiber layer 24, 25 in the mould 12 during casting, in order to obtain a preform, and allowing the thus obtained preform to dry. (Specification at paragraphs [0017] and [0028]; the FIG.)

The method according to dependent claim 16 includes the steps of positioning a water impermeable foil 22 in the mould 12 followed by the casting of a first outer layer of binding material in the mould 12. The method further includes the positioning of at least one layer 24, 25 of glass fibers in the mould 12 followed by the casting of at least one further layer of binding material in the mould. A water impermeable foil 22 is positioned over the last casted layer of binding material. (Specification at paragraph [0028]; the FIG.)

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VI. Grounds of Rejection to be Reviewed on Appeal

The following grounds of rejection are to be reviewed on this Appeal:

I. Whether claims 1-9 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 4,831,062 to von Bonin in view European Patent Application No. EP 1 001 000 A1 to Magni?

II. Whether claims 10-16 are unpatentable under 35 U.S.C. §103(a) over European Patent Application No. EP 1 001 000 A1 to Magni?

VII. Argument

I. Rejection under 35 U.S.C. §103(a) over U.S. Patent No. 4,831,062 to von Bonin in view European Patent Application No. EP 1 001 000 A1 to Magni

Claims 1-9

von Bonin is directed to intumescent materials obtained from the reaction of polyisocyanates with phosphorus-containing condensation products containing at least two hydroxyl groups and boron oxides and /or dehydration products of boric acids. (von Bonin, column 1, lines 27-32). The polyisocyanate is described as having the formula of $Q(NCO)_m$, where m represents a number from 2 to 4, and Q represents an aliphatic hydrocarbon radical having 2 to 18 carbon atoms, a cycloaliphatic hydrocarbon radical having 4 to 15 carbon atoms, an aromatic hydrocarbon radical having 6 to 15 carbon atoms, or an araliphatic hydrocarbon radical having 8 to 15 carbon atoms. (von Bonin, column 1, lines 33-53). The phosphorus-containing condensation products containing at least two hydroxyl groups is described as having the formula of $(RO)_2PO-CH_2-N(CHX-CHX_1-OH)_2$, R is a C_1 to C_8 alkyl or a C_1 to C_8 hydroxyalkyl, and X and X_1 , independently of one another, represent hydrogen or methyl. (von

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Bonin, column 3, lines 7-17). Useful boron oxides and /or dehydration products of boric acids are described as including H_3BO_3 and B_2O_3 . (von Bonin, column 3, lines 33-36).

As acknowledged by the examiner, von Bonin fails to teach or suggest the use of aluminous cement with its polyisocyanate/phosphorus-containing-condensation-products/boron-containing intumescent materials. The lack of any teaching to this aspect of the present invention, however, is not the only deficiency of von Bonin.

A further deficiency is that von Bonin fails to teach or suggest the use of a carboxylic ether polymer based plasticizer. For example, von Bonin specifically teaches that suitable plasticizers for its intumescent materials include plasticizers "of the phosphoric acid ester and/or phosphonic acid ester". (von Bonin, column 4, lines 14-16). While such phosphoric acid ester and/or phosphonic acid ester plasticizers may be useful with von Bonin's polyisocyanate/phosphorus-containing-condensation-products/boron-containing intumescent materials, von Bonin fails to teach to or suggest that carboxylic ether polymer based plasticizers may be used with intumescent materials, in particular intumescent materials having aluminous cement.

Still further, von Bonin describes the use "glass, particularly in bead or fibre form". (von Bonin, column 3, lines 57-58). von Bonin, however, fails to teach or suggest the use of alkali-resistant glass fibers and at least one fiber layer of alkali-resistant glass fibers in its intumescent materials.

Magni is directed to a fire protection coating. (Magni, abstract). The coating is made from a mixture of kaolin, chalk, powdered isolating refractory brick, refractory filler, sawdust, aluminous cement and possibly Portland cement. (Magni, page 3, lines 29-30). Magni fails to

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teach or suggest that its coating mixture may contain a plasticizer, more particularly fails to teach or suggest the use of a carboxylic ether polymer based plasticizer.

Further, Magni fails to teach or suggest use the use alkali-resistant glass fibers and at least one fiber layer of alkali-resistant glass fibers.

Thus, Magni fails to teach or suggest, *inter alia*, the use of a carboxylic ether polymer based plasticizers with its aluminous cement mixture. Further, Magni fails to teach or suggest, *inter alia*, the use of alkali-resistant glass fibers with its aluminous cement mixture. von Bonin fails to teach or suggest its polyisocyanate/phosphorus-containing-condensation-products/boron-containing intumescent materials may include aluminous cement. Further, von Bonin fails to teach or suggest that its phosphoric acid ester and/or phosphonic acid ester plasterers would be compatible with aluminous cement. Still further, von Bonin fails to teach or suggest the use of carboxylic ether polymer based plasticizers and/or alkali-resistant glass fibers. Thus, a *prima facie* case of obviousness is lacking as there is no motivation to combine these references as these references are directed to articles made from clearly different materials. The requisite motivation for relying upon the cited documents and making the proposed combination must refer to some disclosure, teaching or suggestion in or inference from the cited documents as a whole, or from the knowledge generally available to one of ordinary skill in the art, and not from Applicants' own disclosure. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992).

The only teaching of a fibre-reinforced building article having fire protection properties, comprising a matrix of a binding material comprising an aluminous cement, a carboxylic ether polymer based plasticizer, a fugitive material, filler, and alkali-resistant glass fibers, and at least one fiber layer of alkali-resistant glass fibers, incorporated in the matrix, is the subject application. The only motivation to modify von Bonin and Magni in an attempt arrive at the

subject matter of claim 1 of the subject application is the teachings of the subject application. It is well established that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness and any attempt at hindsight reconstruction using Applicant's disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d at 1445-46.

Moreover, Magni and von Bonin, individually or in combination, teach away from the invention of independent claim 1. For example, as described in the Specification at paragraphs [0003] to [0005], particularly paragraph [0005], compositions based on Magni have proved ineffective for use with the present invention because they cure in very short time periods. von Bonin also teaches away from the present invention because von Bonin specifically describes materials with long hardening times as being undesirable. (von Bonin, column 1, lines 15-26). The materials of von Bonin are described as being cured in a short period of time, for example within 10 minutes. (von Bonin, column 8, lines 6-7). Indeed, von Bonin describes that its intumescent materials are specifically formulated to cure even within just seconds. (von Bonin, column 5, lines 20-21). Such low cure times for the intumescent materials of von Bonin are a primary concern of von Bonin because its intumescent materials are used as a coating or as an article having such a coating. (von Bonin, column 5, lines 36-53).

In contrast to the rapid cure time of von Bonin, the present invention uses a carboxylic ether polymer based plasticizer for, *inter alia*, extending the cure time up to about 90 minutes, as described in the subject Specification at paragraph [0005]. Further, as described in the Specification at paragraph [0027], other commonly used plasticizers in the art, such as BETOMIX, POZZOLITH, RHEBUILD-1000 and 2000 series¹, have proved to be ineffective for making the articles of the present invention. Thus, the selection of the carboxylic ether polymer based plasticizer is a critical feature of the present invention.

¹ One of ordinary skill in the art would recognize these plasticizers as being liquid based sulfonate plasticizers.

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Returning to von Bonin, this reference teaches the selection and the use of materials in direct contrast to the present invention, i.e., materials that cure within just seconds, as opposed to the extended cure times of the present invention. Any modification of von Bonin, in an attempt to arrive at the present invention, would destroy the purpose and intent of von Bonin, i.e., intumescent materials with reduced or shortened cure times. In attempting to present a *prima facie* case of obviousness, it is impermissible to pick and chose from a reference or references only those aspects that support the attempted rejection. *Bausch & Lomb, Inc. v. Barnes-Hind Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). A reference or references that teach away from the claimed invention may not be properly used in presenting a *prima facie* case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988).

Thus, von Bonin and Magni, individually or in combination, fail to teach or suggest the present invention of claims 1-9 because von Bonin and Magni fail to teach or suggest, *inter alia*, the use of a carboxylic ether polymer based plasticizer, and furthermore the use of such a carboxylic ether polymer based plasticizer in von Bonin and Magni would destroy the intent, purpose and function of von Bonin and Magni. Therefore, claims 1-9 are patentably distinct over von Bonin and Magni.

II. Rejection under 35 U.S.C. §103(a) over European Patent Application No. EP 1 001 000 A1 to Magni

Claims 10-15

Magni is directed to a process for providing fire protection. (Magni, page 2, line 30). The process of Magni includes the preparing of a slurry and the coating of a layer of unfired slurry onto a construction article. (Magni, page 2, lines 31-34). The coating is made from a

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mixture of kaolin, chalk, powdered isolating refractory brick, refractory filler, sawdust, aluminous cement and possibly Portland cement. (Magni, page 3, lines 29-30).

Thus, Magni fails to teach or suggest that its slurry may be cast into a mould as Magni is directed to a coating process for its slurry. Further, Magni fails to teach or suggest that its coating mixture may contain a plasticizer. More particularly, Magni fails to teach or suggest the use of a carboxylic ether polymer based plasticizer. Still further, Magni fails to teach or suggest the placing of alkali-resistant glass fibers in at least one fiber layers into a mould during the casting of its slurry to form a preform therefrom.

Thus, Magni fails to teach or suggest the method of manufacturing of the subject application. Therefore, claims 10-15 are patentably distinct over Magni.

Claim 16

Magni fails to teach or suggest the casting of multiple layers and the positioning of water impermeable foils into a mould and over a layer of cast material. The examiner alleges that Magni teaches multilayering steps at page 4, lines 37-41. It is respectfully submitted that Magni is merely teaching that multiple articles, i.e., two concrete test walls, may be coated (Magni, page 4, line 30), and that the reference to "layered walls" at page 4, line 39, merely refers to the two concrete test walls which each have a single layer of slurry and not to a multi-layered, fire-resistant cast article itself.

Further, the Examiner's reliance on *In re Japikse*, 86 U.S.P.Q. 70 is not appropriate. This case states that the mere shifting of a position of a starting switch was not inventive over a cited prior art device showing all of the elements, including a starting switch. *In re Japikse* at 73. Here, Magni actually fails to teach or suggest the recited elements. The Examiner may therefore not properly rely on *In re Japikse* because mere re-arrangement of disclosed elements

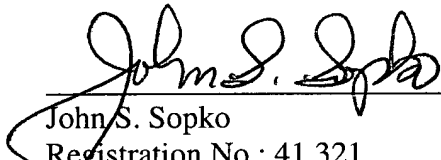
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is not a consideration with Magni. The absence of certain elements is the proper analysis that should be directed toward Magni.

Thus, Magni fails to teach or suggest a method of manufacturing of multi-layered, fire-resistant cast articles, including inter alia, the positioning of water impermeable foils. Therefore, claim 16 is patentably distinct over Magni.

Thus, for the reasons set forth herein, claims 1-16 are patentably distinct.

Respectfully submitted,



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VIII. Claims Appendix

Claim 1. (Original): A fibre-reinforced building article having fire protection properties, comprising a matrix of a binding material comprising an aluminous cement, a carboxylic ether polymer based plasticizer, a fugitive material, filler, and alkali-resistant glass fibers, and at least one fiber layer of alkali-resistant glass fibers, incorporated in said matrix.

Claim 2. (Original): The building article according to claim 1, wherein the weight ratio of the plasticizer with respect to the aluminous cement is in the range of 3-5%.

Claim 3. (Original): The building article according to claim 1, wherein the filler comprises granular waste materials.

Claim 4. (Original): The building article according to claim 1, wherein the plasticizer comprises a carboxylate ether polymer having long side chains attached to the backbone of the polymer.

Claim 5. (Original): The building article according to claim 1, wherein the fugitive material comprises sawdust.

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Claim 6. (Original): The building article according to claim 1, comprising at least two spaced apart co-planar fiber layers, wherein the distance between these fiber layers is larger than the distance of a fibrous layer to the surface of the building article.

Claim 7. (Original): The building article according to claim 1, wherein at least one layer of alkali-resistant glass fibers comprises parallel glass rovings.

Claim 8. (Original): The building article according to claim 6, wherein the building article has the shape of a flat panel.

Claim 9. (Original): The building article according to claim 1, wherein the building article has the shape of a building brick or building block.

Claim 10. (Previously presented): A method for manufacturing a fibre-reinforced building article having fire protection properties, comprising casting an aqueous mixture of binding material comprising an aluminous cement, a fugitive material, filler, alkali-resistant fibers and a carboxylic ether polymer based plasticizer, into a mould, and positioning additional alkali-resistant glass fibers in at least one fiber layer in the mould during casting, in order to obtain a preform and allowing the thus obtained preform to dry.

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Claim 11. (Original): The method according to claim 10, wherein the weight ratio of the plasticizer with respect to the aluminous cement is in the range of 3-5%.

Claim 12. (Original): The method according to claim 10, wherein the plasticizer comprises a carboxylate ether polymer having relatively long side chains attached to the backbone of the polymer.

Claim 13. (Original): The method according to claim 10, wherein the filler comprise granular waste material.

Claim 14. (Original): The method according to claim 10, wherein the fugitive material comprises sawdust.

Claim 15. (Previously): The method according to claim 10, wherein the mould has the shape of a rectangular box having a small depth.

Claim 16. (Original): The method according to claim 10, comprising the steps of feeding a mould, positioning a water impermeable foil in the mould, casting a first outer layer of binding material in the mould, positioning at least one layer of glass fibers in the mould,

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casting at least one further layer of binding material in the mould, and positioning a water impermeable foil over the layer of binding material last casted.

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IX. Evidence Appendix

There were no declarations or other evidence submitted during the prosecution of this application.

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X. Related Proceedings Appendix

None